View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Elsevier - Publisher Connector

Available online at www.sciencedirect.com

ScienceDirect

Procedia Social and Behavioral Sciences 1 (2009) 708–712

Procedia Social and Behavioral Sciences

World Conference on Educational Sciences 2009

The relationship between the primary teachers' teaching strategies and their strengths in multiple intelligences (Their multiple intelligence types) (Sampling: Izmir and Lefkosa)

Nergüz Bulut Serin[a*], Oğuz Serin[a], M. Ali Yavuz[a], Behbud Muhammedzade[a]

[a,b,c,d]*Cyprus International University*

Received October 18, 2008; revised December 25, 2008; accepted January 06, 2009

Abstract

This paper aims to examine the relationships between the teaching styles and the multiple intelligence types of the primary school teachers in İzmir and Lefkosa. The study encompasses 245 subjects, 164 primary school teachers from İzmir and 81 primary school teachers from Lefkosa. In the study, The "Teaching Styles Scale" developed by Serin, Bulut Serin and Serin (2005) and the "Multiple Intelligence Inventory" developed by Saban (2002) were administered to reveal the teaching styles and multiple intelligences of the teachers, respectively. In the analysis of the data, t-test and multiple regressions have been used. The results indicate that there are statistically significant differences between the primary teachers working in İzmir and those working in Lefkoşa when the relationships between their strengths in multiple intelligences and the sub components of their teaching styles such as courageousness, being a model, and planning are considered. There is also a significant difference between gender and planning, but no significant differences between the multiple intelligence types and the other subcomponents of the teaching styles. The t-test results on the regression coefficient depict that variables such as spatial/visual, naturalistic, and interpersonal intelligences play a predictive role on teaching strategies.
© 2009 Elsevier Ltd. Open access under CC BY-NC-ND license.

Keywords: Primary school teacher; teaching strategies; multiple intelligences

1. Introduction

Teachers employ some strategies in the learning and teaching processes in order to facilitate the leaning process and make teaching more effective. There is no single and absolute method in the teaching process. Teachers in selecting methods and implementing them in their courses should take into consideration some issues such as the content of the topics and lesson plans proper to their students' profile. Those teachers who do not choose the right method or not implement them in an efficient way in learning and teaching processes waste their time. In order to provide an efficient learning process, teachers should use the most appropriate and reliable method by spotting and recognizing their students' aptitude, interest, motivation and learning pace. In the beginning of learning and teaching process, teachers should acknowledge what and how to teach.

The theory of Multiple Intelligences (MI) provides teachers with some practical approaches to recognize the different potentials of every student and enable them to be successful in every aspect of learning. The MI theory helps primary teachers not only collaborate among themselves to plan the lessons, subject materials and units but also provides them with chances to work together with the teachers of the other fields. For instance, a primary teacher, in order to more effectively teacher those students who are good at the visual intelligence, can ask for some help from an art teacher; or can ask him/her to carry out some painting activities related to the topic or the unit which she or he teaches in the class.

The purpose of this study is to investigate the relationships among primary school teachers' teaching strategies and multiple intelligence types working in Turkey (Sampling: Izmir) and Cyprus (Sampling: Lefkosa). The research population encompasses the primary school teachers of Izmir and Lefkosa cities.

E-mail address: nserin@ciu.edu.tr.

1877-0428 © 2009 Elsevier Ltd. Open access under CC BY-NC-ND license.
doi:10.1016/j.sbspro.2009.01.124

2. Aim of the study

The aim of this research is to carry out a comparative study on factors affecting the teaching styles and multiple intelligence types of primary school teachers in İzmir and Lefkosa.

3. Research Questions

Are there any relationships between teaching styles and multiple intelligence types among primary school teachers?

1.1. Sub-questions

Regarding the above mentioned research question the study tries to find answers to the following sub-questions.

- Are there any significant differences between the teaching styles and their multiple intelligences among primary school teachers?
- Whether the learning strategies and study skills of teacher-trainees predict their locus of control.

4. Population and Sampling

The research population encompasses the primary school teachers of Izmir and Lefkosa cities. The study consists of 245 subjects; 164 primary school teachers from İzmir and 81 primary school teachers from Lefkosa. The sampling technique in this study is a random sampling technique. The sampling is formed of %57,1 (140) female and %42,9 (105) male primary teachers.

Research Design and Measurement Scales

As a descriptive study, this research tries to find out the characteristics of the teaching styles and multiple intelligence types of the primary school teachers. The dependent variables in this study are teaching styles and multiple intelligence types. The independent variables are place of working and gender.

In the study, in order to infer the teaching styles of the teachers, the "Teaching Styles Scale" developed by Serin, Bulut Serin and Serin (2005) by the Cronbach alpha reliability coefficient of 0.87 was applied. The scale having 30 questions includes four sub-scales such as courageousness, being a model, planning, and coordination.

In the research, in order to determine the multiple intelligence types of the teachers, the "Multiple Intelligence Inventory" scale by the Cronbach alpha reliability coefficient of 0.92 developed by Saban (2002) was used. The scale with 80 questions consists of four sub-scales such as courageousness, being a model, planning, and coordination. The lowest point is 80 and the highest one is 400. The highest point is the sign of the improved level of intelligence.

5. Data Analysis

The t-test and regression analysis has been implemented in order to get the expected results.

6. Results and Discussion

This section encompasses the findings and discussions related to the research question and sub-questions.

Findings Considering the First Sub-question

The first sub-question of the study is posed as: Are there any significant differences between the teaching styles and their multiple intelligences among primary school teachers.

Table-1: The Results of T-test considering the Teachers' and Teaching Styles Depending on the Place of Working Multiple Intelligence

DEPENDENT VARIABLE	Working Place	n	X	ss	t value	P value	significance
Courageousness	İzmir	164	59,951	10,897	7,412	0,000	**p<0,001**
	Lefkoşa	81	50,679	3,971			
Being a Model	İzmir	164	19,603	3,786	2,014	0,045	**p<0,05**
	Lefkoşa	81	20,530	2,387			
Planning	İzmir	164	16,286	3,621	5,356	0,000	**p<0,001**
	Lefkoşa	81	18,864	3,379			
Coordination	İzmir	164	13,548	2,822	1,582	0,115	p>0,05
	Lefkoşa	81	13,012	1,646			
Verbal/Linguistic	İzmir	164	25,073	5,634	8,766	0,000	p>0,05
	Lefkoşa	81	30,888	2,792			
Logical/Mathematical	İzmir	164	24,170	6,240	11,021	0,000	**p<0,001**
	Lefkoşa	81	32,234	2,971			

Spatial/Visual	İzmir	164	24,481	6,511	11,153	0,000	p>0,05
	Lefkoşa	81	32,913	2,784			
Bodily/Kinaesthetic	İzmir	164	28,140	5,776	4,944	0,000	**p<0,001**
	Lefkoşa	81	31,604	3,590			
Naturalist	İzmir	164	25,725	5,413	9,987	0,000	p>0,05
	Lefkoşa	81	32,321	3,481			
Musical/Rhythmic	İzmir	164	26,073	7,553	6,033	0,000	p>0,05
	Lefkoşa	81	31,358	3,183			
Interpersonal	İzmir	164	27,689	5,208	4,802	0,000	p<0,001
	Lefkoşa	81	30,777	3,588			
Intrapersonal	İzmir	164	27,323	5,453	4,133	0,000	p<0,001
	Lefkoşa	81	30,086	3,606			

Analyzing the teaching styles considering the place of working (the city), the study depicts a significant statistical change among the following sub-scales: courageousness; (t=7,412 p<0,001), being a model; (t=2,014 p<0,045), and planning; (t=5,356 p<0,001).

Analyzing the multiple-intelligence considering the place of work (the city), the study depicts a significant statistical difference betwen the following sub-scales: verbal/linguistics; (t=8,766 p<0,001), logical/mathematical; (t=11,021 p<0,001), spatial/visual; (t=11,153 p<0,001), bodily/kinaesthetic (t=4,944 p<0,001), musical/rhythmic; (t=6,033 p<0,001), interpersonal; (t=4,802 p<0,001), and interpersonal; (t=4,133 p<0,001). As the table 1 shows, the difference stems from the teachers working in Lefkosa.

Table-2: The Results of T-test related to the Teachers' Multiple Intelligence and Teaching Styles from the perspective of the Gender

DEPENDENT VARIABLE	**Gender**	**n**	**X**	**ss**	**t value**	**P value**	**significance**
Courageousness	Female	140	56,300	9,702	1,040	0,299	p>0,05
	Male	105	57,666	10,778			
Being a Model	Female	140	20,178	3,023	1,425	0,156	p>0,05
	Male	105	19,552	3,855			
Planning	Female	140	17,557	3,239	2,035	0,043	**p<0,05**
	Male	105	16,581	4,269			
Coordination	Female	140	13,457	2,471	0,618	0,537	p>0,05
	Male	105	13,257	2,557			
Verbal/Linguistic	Female	140	26,985	5,138	0,033	0,974	p>0,05
	Male	105	27,009	6,172			
Logical/Mathematical	Female	140	27,307	6,583	1,293	0,197	p>0,05
	Male	105	26,209	6,565			
Spatial/Visual	Female	140	26,735	7,199	1,415	0,158	p>0,05
	Male	105	27,981	6,269			
Bodily/Kinesthetic	Female	140	29,535	4,573	0,836	0,404	p>0,05
	Male	105	28,952	6,350			
Naturalist	Female	140	27,835	5,593	0,220	0,826	p>0,05
	Male	105	28,000	6,008			
Musical/Rhythimic	Female	140	27,728	5,674	0,240	0,811	p>0,05
	Male	105	27,942	8,289			
Interpersonal	Female	140	29,214	4,755	1,851	0,065	p>0,05
	Male	105	28,038	5,134			
Intrapersonal	Female	140	28,121	4,824	0,409	0,683	p>0,05
	Male	105	28,390	5,426			

When the teaching styles are analyzed from the perspective of teachers' gender, the study does not depict a meaningful difference among the following sub-scales: courageousness, being a model, however, planning shows a slight (t=2,035 p<0,05) difference with regard to the female teachers.

The analysis of the multiple-intelligences from the perspective of teachers' gender does not depict meaningful differences among the multiple-intelligence sub-scales

Findings Considering the Second Sub-question

The second sub-question of the study is posed as: "Whether the learning styles and study skills of teacher-trainees predict their locus of control,"

As shown in table 3, the results of multi-regression analysis demonstrate that analyzing the relationship between the predictive variables and dependent variables, considering verbal/linguistic, logical/mathematical, spatial/visual, bodily/kinaesthetic, naturalistic, musical/rhythmic, intrapersonal, is less meaningful and negative.

The accumulated positive and low twofold correlation (r=0,094) between interpersonal intelligence and teaching styles is nearly the same (r=0,025) when the other variables are analyzed.

There is a significant relationship (R = 0,380 R^2 = 0,145 p<0,001) between visual/linguistic, logical/mathematical, spatial/visual, bodily/kinaesthetic, naturalistic, musical/rhythmic, intrapersonal, and teacher's teaching styles among the numerical points. Besides the above mentioned variables the total variance in teaching styles approximately is shown about %15.

Table 3. The results of Multi-regression Analysis in Relation to the Prediction of the Locus of Control

Model	B	Std. Error	β	t	Sig.	Zero-order	Partial
Constant	107,579	6,310		17,049	,000		
Linguistic	,148	,294	,055	,503	,615	-,119	,033
Logical Mathematical	-,289	,247	-,127	-1,168	,244	-,137	-,076
Spatial	-,970	,232	-,443	-4,182	,000	-,248	-,263
Bodily-kinesthetic	-,168	,240	-,061	-,701	,484	-,076	-,046
Naturalist	,978	,299	,377	3,267	,001	-,012	,208
Musical	-,153	,203	-,071	-,754	,452	-,119	-,049
Interpersonal	,480	,237	,159	2,022	,044	,094	,131
Intrapersonal	-9,922	,261	-,034	-,380	,705	-,017	-,025
R = 0,380	R^2 = 0,145						
$F_{(8-236)}$ = 4,985	p = 0,000						

Dependent Variable: Teaching Strategies

According to the standardized regression correlation (β), considering the level of importance of predictive variables on locus control, the order is as the followings: intrapersonal, bodily/kinaesthetic, interpersonal, spatial/visual, musical/rhythmic, verbal/linguistic, and naturalistic. Analyzing the t-test results considering the level of significance of regressional correlation the spatial/visual, naturalistic and interpersonal variables depict a significant predictive on teaching styles. On the other hand, the intrapersonal, bodily/kinaesthetic, musical/visual, and verbal/linguistic variables have no meaningful effects on teaching strategies.

7. Conclusion, Discussion and Suggestions

The study depicts that there is a significant difference considering the city in the mean scores of teaching styles in sub-scales such as courageousness; (t=7,412 p<0,001), being a model (t=2,014 p<0,045), and planning (t=5,356 p<0,001).

Analyzing the multiple-intelligence considering the teachers place of working, the study show a significant difference among the mean scores of intelligences as the following: verbal/linguistic (t=8,766 p<0,001), logical/mathematical (t=11,021 p<0,001), spatial/visual (t=11,153 p<0,001), bodily/kinaesthetic (t=4,944 p<0,001), musical/rhythmic (t=6,033 p<0,001), interpersonal(t=4,802 p<0,001) and interpersonal (t=4,133 p<0,001).

As depicted in the table one, the difference is created by teachers working in Lefkosa. This can be related to the primary school programs in Cyprus which has been prepared appropriate to the intelligence fields in the academic year of 2008-2009. Moreover, the new programs can be interpreted as an attractive and interesting both for teachers and students.

Analyzing the teaching styles considering the teacher's sex, the mean scores of the analysis showed no meaningful difference in subscales such as courageousness, being a model, and coordination. The analysis depicted a slight difference (t=2,035 p<0,05) created by female teachers.

Thus, we can say that female teachers comparing to male teachers give more importance to their teaching styles. This finding is the same as the other research findings, for example, the research on teaching styles considering the gender variable on university students conducted by Baran (2000), Öztürkmen (2006) ve Serin (2008) showed the same results.

Analyzing the multiple-intelligence of teachers considering their sex, the study showed no meaningful difference among the mean scores of all intelligences. This finding is at variance with the other research findings, for example, the researches on multiple-intelligences considering gender variable conducted by Baran (2000), Oklan Elibol (2000), Durmaz ve Özyıldırım (2005), Öztürkmen (2006), Özdemir (2006), Abacı ve Baran (2007), Hoşgörür and Katrancı (2007), Taş (2007) and Serin (2008). However, the finding is identical with the study conducted on teachers by Berkant ve Ekici (2007). Moreover, analyzing and comparing the teacher's multiple intelligence fields considering their gender working in Izmir and lefkosa demonstrated that the naturalistic multiple-intelligence changes in the favour of male teachers (t=2,220 p<0,029) working in Lefkosa and considering spatial intelligence we saw a change in the favour of female teachers (t=3,915 p<0,001) working in Izmir.

The results of multi-regression analysis showed a negative and low relationship among twofold and a relative correlation of the predictive variables and depending variable and relative correlations. Regarding the t-test results related to the significance of regression correlation, the spatial/visual, naturalistic, and interpersonal variables showed a significant predictive on teaching styles, however, the intrapersonal, logical/mathematical, bodily/kinesthetic, musical/rhythmic, and verbal/linguistic variables depicted no meaningful effects on teaching styles.

8. Suggestions

Considering the findings in this study, we offer the following suggestions.
Considering the findings in this study, we offer the following suggestions.

1. Faculties of education should incorporate teaching styles in their curriculum since these styles can be built up cognitively by students.
2. Faculties of education should constitute a commission that can prepare some teachers' guide books containing issues about teaching styles.
3. With the aim to establish unity among teachers, universities and specially faculties of education should organize in-service training courses for the development of efficient teaching styles in teachers.
4. The most successful teaching staff dealing with the teaching style should be spotted and their students should be observed in order to infer their levels of learning process during the course.
5. In-service training on teaching styles should be provided in order to teach those teachers who have less knowledge about teaching styles and the results of these studies should be analyzed and compared by means of the pre-test and post-test data.
6. In these kinds of research studies, groups with low and high degrees of learning styles should be spotted qualitative research should be carried out on teachers with less knowledge on teaching styles with the aim to help the teachers develop efficient teaching styles.
7. After giving courses on teaching styles to teachers, their students' rate of success should be examined.
8. This research should be conducted in primary and secondary schools in order to discover the relationship between the teaching styles and multiple-intelligences for the sake of their students' success.
9. This study shows that the mean scores of teachers' multiple intelligence types are high; this means that they are ready to use these styles in their teaching processes. Thus, especially in Lefkosa, teaching on the bases of multiple intelligences approach should be developed. Therefore, using these approaches will lead to a more successful teaching process.
10. Similar studies can be done with different groups of teachers.

References

Abacı, R. ve Baran, A. (2007). Üniversite öğrencilerinin çoklu zeka düzeyleri ile bazı değişkenler arasındaki ilişki. Uluslar arası İnsan Bilimleri Dergisi. ISSN: 1303-5134. Cilt: 4. sayı: 1 Yıl:2007.

Baran, A. (2000). Üniversite öğrencilerinin çoklu yetenek-öğrenme stilleri ile benlik saygısı ve sürekli kaygı düzeyleri arasındaki ilişki. Yayımlanmamış Yüksek Lisans Tezi. Ondokuz Mayıs Üniversitesi, Sosyal Bilimler Enstitüsü, Samsun.

Berkant, G.H. ve Ekici, G. (2007). Sınıf öğretmeni adaylarının fen öğretiminde öğretmen öz-yeterlilik inanç düzeyleri ile zeka türleri arasındaki ilişkinin değerlendirilmesi. Çukurova Üniversitesi Enstitüsü Dergisi/e-dergi ISSN: 1304-8899Cilt: 16, Sayı: 1.

Brand, S. T. (2006). Facilitating Emergent Literacy Skills: A Literature-Based, Multiple Intelligence Approach. *Journal of Research in Childhood Education, 21*(2), 133-139

Colby, E. A. (2007). Marking Intelligence Smart. *Policy Review,* (144), 71-81.

Durmaz, H. ve Özyıldırım, H. (2005). Fen bilgisi ve sınıf öğretmenliği öğrencilerinin kimya dersine karşı tutumları ve çoklu zeka alanları ile kimya ve Türkçe derslerindeki başarıları arasındaki ilişkinin incelenmesi. *Gazi Üniversitesi Kırşehir Eğitim Fakültesi Dergisi.* Cilt 6, Sayı 1, (2005), 67-76

Fuchs, D., & Young, C. L. (2006). On the Irrelevance of Intelligence in Predicting Responsiveness to Reading Instruction. *Exceptional Children, 73*(1), 8-16.

Hoşgörür, V. ve Katrancı, M. (2007). Sınıf ve beden eğitimi ve spor öğretmenliği öğrencilerinin baskın zeka alanları (Kırıkkale Üniversitesi Eğitim Fakültesi Örneği). Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 24, (2007), 33-42.

Oklan Elibol, F. (2000). Anasınıfına devam eden altı yaş grubu çocukların çoklu zeka kuramına göre değerlendirilmesi. Hacettepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Yayımlanmamış Yüksek Lisans Tezi, Ankara.

Özdemir, Y. (2006). 4-6 yaş grubu çocukların öğrenme sürecinde çoklu zeka teorisinin yeri. Çanakkale Onsekiz Mart Üniversitesi. Sosyal Bilimler Enstitüsü, Yayımlanmamış Yüksek lisans Tezi. Çanakkale.

Öztürkmen, B. (2006). Ortaöğretim öğrencilerinin çoklu zeka kuramına göre zeka alanlarıyla öğrenme stratejileri arasındaki ilişkinin incelenmesi. Gaziantep Ün,iversitesi, Sosyal Bilimler Enstitüsü Y. Lisans Tezi, Antep.

Planinsec, J., & Pisot, R. (2006). Motor Coordination and Intelligence Level in Adolescents. *Adolescence, 41*(164), 667-677.

Serin, U. (2008). Fen alanı öğretmenlerinin öğretme strateji ve stilleri ile tercih ettikleri öğretim yöntemleri ve çoklu zeka alanları arasındaki ilişkiler. Dokuz Eylül Üniversitesi, Eğitim Bilimleri Enstitüsü, Yayımlanmamış Doktora Tezi, İzmir.

Taş, G. (2007). İlköğretim birinci kademe sınıf öğretmenlerinin çoklu zeka kuramının öğretimde uygulanmasına ilişkin görüşleri ve tutumları. Niğde Üniversitesi, Sosyal Bilimler Enstitüsü, Yayımlanmamış Yüksek lisans Tezi, Niğde.

Turner, H., & Williams, R. L. (2007). Vocabulary Development and Performance on Multiple-Choice Exams in Large Entry-Level Courses. *Journal of College Reading and Learning, 37*(2), 64-76.